

What is claimed is:

1. A method of adjusting a brightness of a display, the method comprising:

determining current viewpoint brightness information of a current viewpoint region on the display corresponding to a user current viewed point or area of the display; determining previous brightness information of a previous viewpoint region of the display corresponding to a previously viewed point or area of the display; and controlling a displaying of a current image, including the current viewpoint region, with an adjusted brightness for a partial region of the display based on a comparison of the current viewpoint brightness information and the previous brightness information.

2. The method of claim 1, further comprising adjusting the brightness for the partial region, including temporarily increasing the brightness of the partial region of the display in response to a difference between the current viewpoint brightness information and the previous brightness information meeting a light reaction threshold.

3. The method of claim 2, wherein the temporary increasing of the brightness of the partial region comprises:

increasing the brightness of the partial region to a first amount beginning in a first light reaction interval; and gradually adjusting the brightness of the partial region to a default brightness during a second light reaction interval, after the first light reaction interval, longer than the first light reaction interval.

4. The method of claim 1, further comprising adjusting the brightness for the partial region, including temporarily decreasing the brightness of the partial region of the display in response to a difference between the current viewpoint brightness information and the previous brightness information not meeting a dark reaction threshold.

5. The method of claim 4, wherein the temporary decreasing of the brightness of the partial region comprises:

decreasing the brightness of the partial region to a first amount beginning in a first dark reaction interval; and gradually adjusting the brightness of the partial region to a default brightness during a second dark reaction interval, after the first dark reaction interval, longer than the first dark reaction interval.

6. The method of claim 1, further comprising:

determining peripheral brightness information of a peripheral region, as the partial region, that is peripheral of the viewpoint region,

wherein the controlling of the displaying of the current image with the adjusted brightness comprises adjusting a brightness of the peripheral region based on a comparison of the viewpoint brightness information and the peripheral brightness information.

7. The method of claim 6, wherein the adjusting of the brightness of the peripheral region comprises decreasing the brightness of the peripheral region in response to a difference between the current viewpoint brightness information and the peripheral brightness information meeting a first emphasis threshold.

8. The method of claim 7, wherein the controlling of the displaying of the current image further includes controlling a displaying of a sequence of frames while maintaining a result of the decreasing of the brightness of the peripheral region until the peripheral region is no longer displayed or a viewpoint of the viewer changes.

9. The method of claim 6, wherein the adjusting of the brightness of the peripheral region comprises increasing the brightness of the peripheral region in response to a difference between the current viewpoint brightness information and the peripheral brightness information failing to meet a second emphasis threshold.

10. The method of claim 9, wherein the controlling of the displaying of the current image further includes controlling a displaying of a sequence of frames while maintaining a result of the increasing of the brightness of the peripheral region until the peripheral region is no longer displayed or a viewpoint of the viewer changes.

11. The method of claim 1, further comprising adjusting the brightness for the partial region, including adjusting a brightness of a target region that includes the viewpoint region.

12. The method of claim 1, further comprising:

determining the user current viewed point or area of the display by tracking a head and/or a gaze of the user; and determining the current viewpoint region based on the determined user current viewed point or area.

13. A non-transitory computer-readable medium storing instructions that, when executed by one or more processors, cause the one or more processors to perform the method of claim 1.

14. A device for displaying a brightness of a display, the device comprising:

a display configured to display plural images; and

a processor configured to determine current viewpoint brightness information of a current viewpoint region on the display corresponding to a user current viewed point or area of the display, determine previous brightness information of a previous viewpoint region of the display corresponding to a previously viewed point or area of the display, and to provide for the display a current image, including the current viewpoint region, with an adjusted brightness for a partial region of the display based on a comparison of the current viewpoint brightness information and the previous brightness information.

15. A method of adjusting a brightness of a display, the method comprising:

determining current viewpoint brightness information of a current viewpoint region on the display corresponding to a user current viewed point or area of the display; determining peripheral brightness information on a peripheral region that is peripheral of the viewpoint region; and

controlling a displaying of a current image, including the current viewpoint region and the peripheral region, with an adjusted a brightness of a partial region of the display based on a comparison of the current viewpoint brightness information and the peripheral brightness information.

16. The method of claim 15, further comprising adjusting the brightness of the partial region, including decreasing the brightness of the partial region in response to a difference between the current viewpoint brightness information and the peripheral brightness information meeting a first emphasis threshold.

17. The method of claim 16, wherein the controlling of the displaying of the current image further includes controlling a displaying of a sequence of frames while maintaining a